

REMARKS

In the office action dated April 9, 2009, the examiner has rejected claims 1-8 and 15-18 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; claim 19 under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 3,784,005 to McVay, et al. in view of EP 0668098 to Amo, et al. and U.S. Patent Publication No. 2003/0108705 to Duffield, et al.; and claims 1-8 and 15-18 under 35 U.S.C. 103(a) as being unpatentable over McVay, et al. in view of Amo, et al., Duffield, et al., and JP 56048210 to Uchiyama, et al.

Prior to the present amendment, claims 1-8 and 15-19 were pending. In this amendment, new claims 20-24 have been added. Accordingly, claims 1-8 and 15-24 are under examination.

Support for new claim 20 can be found in the specification as filed on page 4, lines 20-21 and 26-30; page 7, lines 3-4; pages 12-13, Example 1; and original claims 2, 3, 4, and 7. Support for new claim 21 can be found on page 10, lines 1-8; page 12-13, Example 1; and original claim 15. Support for new claim 22 can be found on page 8, lines 20-23. Support for new claim 23 can be found on page 2, lines 28-30. Support for new claim 24 can be found on page 4, lines 20-21 and 26-30 and original claims 2, 3, 4, and 7.

Accordingly, no new matter has been entered by the amendment of the claims.

REJECTIONS UNDER 35 USC § 112

Claims 1-8 and 15-18 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The examiner contends that claim 1 recites the transitional phrase “consisting of” and is not supported by the originally filed disclosure.

Applicant maintains that the specification as filed does support the phrase “consisting of.” Support for the phrase can be found on page 10, lines 1-8, where the specification states that the initiator is the major component held within the container and the initiator provides up to 100

wt. % of the contents of the container. The specification further states that one or more additives are “optional.”

The examiner concedes that there is support for polymerisation initiator system consisting of 2,2'-azobis(2-amidinopropane)dihydrochloride in a PVA bag. Accordingly, applicant has added new claim 24, wherein the polymerisation initiator system consists of 2,2'-azobis(2-amidinopropane)dihydrochloride in a water-soluble PVA bag. Therefore, claim 24 should be allowable.

REJECTIONS UNDER 35 USC § 103

Claim 19 was rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 3,784,005 to McVay, et al. (“McVay `005”) in view of EP 0668098 to Amo, et al. and U.S. Patent Publication No. 2003/0108705 to Duffield, et al. and claims 1-8 and 15-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over McVay, et al. in view of Amo, et al., Duffield, et al., and JP 56048210 to Uchiyama, et al. Both rejections will be addressed together below.

According to the examiner, McVay`005 disclose a package containing materials to be added to a resin formulation comprising a thin-walled plastic envelope which is soluble in the resin formulation. The examiner further contends that McVay `005 state that the material added to the resin formulation may be a catalyst. The examiner concedes that McVay `005 is silent with respect to the azo-initiator in powder, crystal, or granular form; and the water-soluble container/package.

The examiner relies upon Amo, et al. for allegedly disclosing that water-soluble azo-compounds have skin irritant action and spherical granules of water-soluble azo-compounds, which cause no dust, are prepared in view of safety. The examiner further relies upon Duffield, et al. for disclosing water-soluble containers made of an injection molded polymer.

The examiner concludes that it would have been obvious to use the water-soluble container/package of Duffield, et al., which is capable of being injection molded, because McVay `005 in view of Amo, et al. contemplates using a package/container that is soluble in the resin formulation of a reaction system; and a known water-soluble container, that can be injection molded, would have been an obvious choice if the reaction is carried out in aqueous solution.

The examiner further relies upon Uchiyama, et al. for disclosing a water-soluble antifoaming agent that can be used in the synthetic resin industry.

McVay `005 in combination with its continuation-in-part, McVay `596, teach away from the claimed invention

McVay `005 disclose several types of additives to be packaged and disclose that certain additives may require a vehicle for stabilization. Specifically, McVay `005 state “[w]here one or more of the additives to be packages in accordance with the present invention are solids which would tend to dissolve or react with the film package, a vehicle may be used which will coat the reactive particles so that these will not attack or dissolve the envelope.” See MacVay `005 col. 8, lines 29-33.

Although, McVay `005 do not specifically address azo-initiators, another McVay, et al. reference (U.S. Patent No. 3,902,596, “McVay `596”), which was cited by the examiner in the office action dated June 12, 2008 and is a continuation-in-part of the McVay `005 reference presently cited by the examiner (U.S. Patent No. 3,784,005) does address azo-initiators. Specifically, McVay `596 describe azo-catalysts as “sensitive catalysts” that require suspension in a liquid vehicle to stabilize the sensitive catalyst and reduce the explosion hazard. See col. 2, lines 46-59 and col. 3, lines 5-9 of McVay `596. Liquid vehicles disclosed by McVay `596 include mineral oil, castor oil, menharden oil, coconut oil, and soybean oil. See col. 3, lines 61-67 of McVay `596.

The requirement in McVay `596 of a liquid vehicle for stabilization teaches away from the present invention which does not require a liquid vehicle. In particular, the water soluble container “consisting of” a water-soluble azo-initiator in claims 1, 21, and 24 preclude the presence of a liquid vehicle for stabilization.

Furthermore, McVay `596 do not disclose a water-soluble container, an azo-initiator, water-soluble anti-foaming agents, or water-soluble diluent materials.

Accordingly, each of the claims is patentable over Mc Vay `005 in view of Amo, et al. and Duffield, et al.

Furthermore, claims 17, 19, 22, and 23 state that the azo-initiator is in the form of either a powder, crystals, granules, or combinations thereof. The requirement of claims 17, 19, 22, and 23 that the azo-initiator is in solid form, namely, in the form of powder, crystals, or granules, excludes the possibility of the azo-initiator being suspended in a liquid stabilizer. Therefore, claim 19 is patentable over McVay `005 in view of Amo, et al. and Duffield, et al.

Amo, et al., Duffield, et al., and Uchiyama, et al. do not cure the deficiencies of McVay `005 and McVay `596

The secondary references in the 35 U.S.C. 103(a) rejections do not cure the deficiencies of McVay `005 or McVay `596. Amo, et al. disclose a method of making spherical granules of a water-soluble azo compound. First, the water-soluble azo compound is dispersed in a water-insoluble solvent, and then a water and/or a hydrophilic solvent dissolving the water-soluble azo compound is added with stirring to granulate the water-soluble azo compound in the solution. Amo, et al. echo the disclosure of McVay `596 in referring to the sensitive nature of the azo compounds. Amo, et al. state “these compounds have high thermal decomposition properties and explosive properties.” See Amo, et al. page 2, lines 10-12.

However, Amo, et al. do not disclose or suggest a use for the granules of the water-soluble azo compound. Specifically, Amo, et al. do not teach or suggest that the initiator can be

stored in a container without a vehicle, let alone in a container that dissolves in a solvent to catalyze a polymerisation reaction.

In fact, Amo, et al. teach away from storing the granules in a container by the nature of the problem Amo, et al. is attempting to solve. Amo, et al. state that making water-soluble azo compounds having a shape which causes no dust has been requested in view of safety. See Amo, et al. page 2, lines 8-9.

However, the present invention is not concerned with avoiding dust formation. For example, the specification states: "No special attention is required to ensure that the particles are highly spherical to avoid dust exposure to the environment. In this respect, it is a further advantage of the invention that the geometric properties and resistance to break-down of the form in which the initiator is originally present in the container, are not particularly important to successfully avoid exposure to dust." See the paragraph bridging pages 8 and 9 of the specification as filed.

Therefore, if spherical granules of Amo, et al. solve the dust problem, then there would be no reason to place the granules in a container as required by the present invention.

Furthermore, by Amo, et al. disclosing that dust is to be avoided, Amo, et al. teach away from azo-compounds in the form of crystals and powders, which do not inherently provide a low tendency to cause dust. Accordingly, applicant maintains that claims 23 and 24 which specify azo-initiators in the forms of crystals and powder are patentable over Amo, et al.

For the foregoing reasons, a person of ordinary skill in the art would have no reason to combine the disclosure of Amo, et al. with that of McVay '005, Duffield, et al., or Uchiyama, et al.

With respect to Duffield, et al., only rigid, water-soluble containers are disclosed. Duffield, et al. do not disclose the water-soluble bags as recited in claim 2. Accordingly, claim 2 is patentable over Duffield, et al.

Additionally, Duffield, et al. is directed towards an injection-molded capsule container for delivery of a water-destined ingredient selected from fabric care, surface care, or a dishwashing composition, a detergent, pesticide, biocide, deodorant, dye, pigment, or water-treatment chemical.

Contrary to the claimed invention, Duffield, et al. do not disclose or suggest using the containers to hold azo-initiators. Duffield, et al. only list fabric care, surface care, and a dishwashing composition as possible uses of the containers. Accordingly, Duffield, et al. relate to an art very different from azo-initiators.

Therefore, there is no reason for a person of ordinary skill in the art to combine Duffield, et al. with references relating to azo-initiators such as McVay `005, Amo, et al., or Uchiyama, et al.

Uchiyama, et al. is the English abstract of a Japanese reference, which does not disclose more than a water-soluble antifoaming agent for use in various industries including the synthetic resin industry. Uchiyama, et al. does not make up for any of the deficiencies of McVay `005 or McVay `596.

Therefore, applicant maintains that the combined references do not disclose a polymerisation initiator system including a water-soluble container consisting of a water-soluble azo-initiator or a water-soluble azo-initiator and at least one component selected from the group consisting of water-soluble anti-foaming agents and water-soluble diluent materials.

In view of the foregoing, applicant respectfully requests that the 35 U.S.C. 103(a) rejection over McVay in view of Amo, et al. and Duffield, et al. be reconsidered and withdrawn.

Applicant: Sarkar
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Page 12 of 12

Docket No.: 294-231 PCT/US/RCE II

Applicant respectfully submits that the application is now in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of the application, it is respectfully requested that the examiner contact applicant's attorney at the telephone number provided below.

Respectfully submitted,

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